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Duke Power
Group Environment, Health & Safety
13339 Hagers Ferry Road
Huntersville, NC 28078-7929

September 27, 2000

To: Larry Harper
Fuels Procurement, Coal Ash

Subject: Highway 150 Ash Fill Site
Groundwater Evaluation

Site Location: The site is located approximately ¾ mile northeast of Marshall Steam Station on North Carolina Highway 150 (Figure 1).

Site Characteristics: At time of this assessment (9/25/00), the subject property was about 90% cleared of trees and vegetation. A moderately slopping ravine receives surface drainage from the north, south and western slopes and drains to a cove in the Marshall Steam Station intake cannel. Surface drainage has washed a five foot deep narrow gully in the bottom of the ravine with a bottom elevation of approximately 765 feet. No running or standing water was observed in the bottom of the ravine.

Groundwater Assessment: Three soil borings were advanced using a three inch diameter bucket auger to evaluate depth to seasonal high water table. Locations one and two (Figure 2) were located at approximate elevations 761 and 765 respectively. Location three was located on the northern lip of the gully above location two and at approximate elevation 770. Relevant soil descriptions and relation to seasonal high water table are provided below:

Location #1 Soil at a depth of two feet was a light brownish gray, silty sand with a Munsell chroma value of 2 (10YR 6/2). Low chroma values are indicative of saturated conditions. Water filled the boring to a depth of 6 inches below surface but was probably influenced by drainage from a rain event the previous day.

Location #2 Soil at a depth of two feet was a yellowish red silty sand with a Munsell chroma value of 6 (5YR 5/6) with 25% mottles. Mottles indicate conditions of variable saturation. Water filled the boring to a depth of 3 inches below surface but was probably influenced by drainage from a rain event the previous day.

Location #3 Soil from surface to five feet was a yellowish red clayey silty sand (5YR 5/8). Soil from five to six feet was of the same color but with 3% mottles at five feet and increasing with depth. No water entered the boring (termination depth 6.0').

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Conclusions: Based on the topography of the site, soil descriptions and site observations, the seasonal high water table appears to be one to two feet below the bottom elevations of the site. If soil fill is used up to the 770 elevation as planed, then ash placement above 770 will meet the two feet above seasonal high water table permit requirement.
If you have any questions or need additional information, please don't hesitate to contact me at 875-5228.

Tim Hunsucker
Scientist, Environmental Chemistry
Scientific Services Section
Group Environment, Health and Safety

attachments


RIVER
SITE AREA
Creek
Holdsclaw
Powerplant
Substation
W.T.
BM 840
BM 841
BM 879
BM 777
Terrell
Rehobeth Ch
Motts Grove Ch
Cem
SOUTHERN
LINE
827×
814×
803×
×877
800
850
900

FIGURE 1

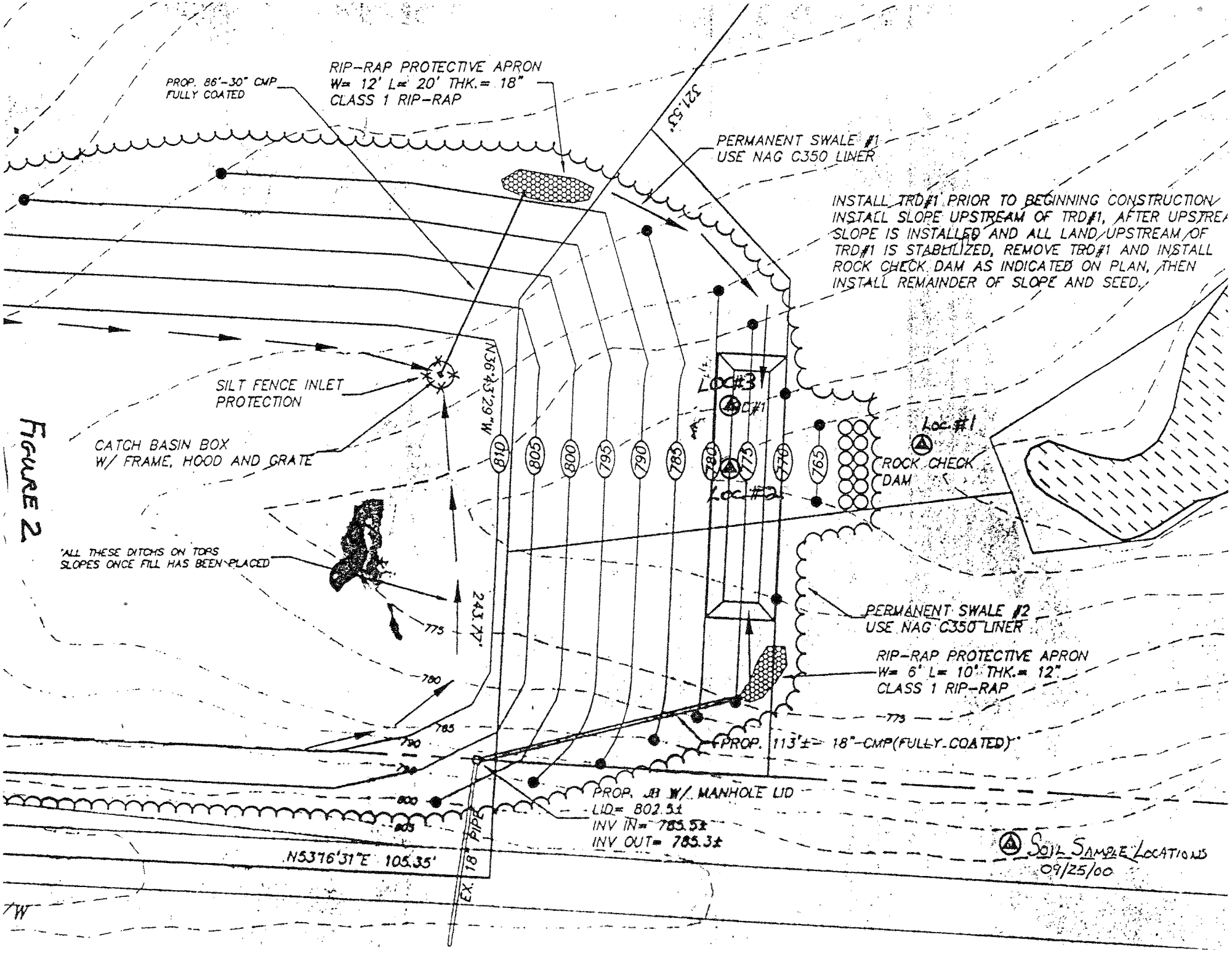
RIP-RAP PROTECTIVE APRON
W= 12' L= 20' THK.= 18"
CLASS 1 RIP-RAP
PROP. 86'-30" CMP
FULLY COATED
PERMANENT SWALE #1
USE NAG C350 LINER
INSTALL TRD#1 PRIOR TO BEGINNING CONSTRUCTION
INSTALL SLOPE UPSTREAM OF TRD#1, AFTER UPSTREAM
SLOPE IS INSTALLED AND ALL LAND UPSTREAM OF
TRD#1 IS STABILIZED, REMOVE TRD#1 AND INSTALL
ROCK CHECK DAM AS INDICATED ON PLAN, THEN
INSTALL REMAINDER OF SLOPE AND SEED.
SILT FENCE INLET
PROTECTION
CATCH BASIN BOX
W/ FRAME, HOOD AND GRATE
Loc#3
Loc#1
Loc#2
ROCK CHECK
DAM
"ALL THESE DITCHES ON TOPS
SLOPES ONCE FILL HAS BEEN PLACED
PERMANENT SWALE #2
USE NAG C350 LINER
RIP-RAP PROTECTIVE APRON
W= 6' L= 10' THK.= 12"
CLASS 1 RIP-RAP
PROP. 113'± 18"-CMP(FULLY COATED)
PROP. JB W/ MANHOLE LID
LID= 802.5±
INV IN= 785.5±
INV OUT= 785.3±
N5376'31"E 105.35'
EX. 18" PIPE
Soil Sample Locations
09/25/00

FIGURE 2